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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/749,284	12/26/2000	Gene R. Anderson	1613370-0005	5815

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PATENT DEPARTMENT
1155 AVENUE OF THE AMERICAS
NEW YORK, NY 10036

EXAMINER

VALENTIN, JUAN D

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 12/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/749,284		Applicant(s) ANDERSON ET AL.	
	Examiner Juan D Valentin II		Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 16 September 2003.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-95 and 118-144 is/are pending in the application.

4a) Of the above claim(s) ____ is/are withdrawn from consideration.

5) ☐ Claim(s) ____ is/are allowed.

6) ☒ Claim(s) 1-95 and 118-144 is/are rejected.

7) ☐ Claim(s) ____ is/are objected to.

8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 26 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>12/27/03</u> .	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: ____
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DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-95 and 118-144 rejected under 35 U.S.C. 103(a) as being unpatentable over Miura et al. (USPN '996 B1, hereinafter Miura) in view of Simonis et al. (1Gb/s VCSEL, hereinafter Somonis).

Claim 1

Miura discloses an optoelectronic connector comprising a mounting surface, an array of optoelectronic devices adapted to the mounting surface, the optoelectronic devices having at least a first end (abstract). Miura discloses an array of optical elements, the array of optical elements having at least a first end, the first end of the array of optical elements positioned relative to the first end of the array of optoelectronic devices in such a manner that one or more optical elements is optically aligned to one or more optoelectronic devices (Fig. 1, ref. 26, and 10). Miura further discloses an adhesive dispensed between the first end of the array of optoelectronic devices and the first end of the array of optical elements, wherein the adhesive contacts the first end of the array of optoelectronic devices and the first end of the array of optical elements (Fig. 1, ref. 26, 10 and 18, col. 5, lines 7-54).

Miura substantially teaches the claimed invention except that it fails to show an array of optical elements and an array of optoelectronic devices. Simonis shows that it is known to provide an array of optical elements and optoelectronic devices (pg. 3, paragraph 3) for an optical inter connect. It would have been obvious to someone of ordinary skill in the art to combine the device of Miura with the array of optical elements and optoelectronic devices of Simonis for the purposes of providing high bandwidth and high-density optical computing.

Claims 2-24

The dependant claims are all obvious and well known to someone of ordinary skill in the art. The reference of Miura in view of Simonis discloses gel like epoxy optical adhesives and a second adhesive surrounding the array of optical elements (Miura, col. 5, lines 7-41), it is obvious and well known in the art that UV optical adhesive is a form of epoxy resin. It is obvious and well known to someone of ordinary skill in the art that the resin or epoxies used to encapsulate optical modules need to be insulators in order to prevent the flow of electricity through the module from dissipating through the encapsulated portion yet enable to flow freely through the module to the optical array devices. Miura in view of Simonis further disclose photodetectors and printed circuit boards (Simonis, pg. 3, third paragraph), oxide vertical cavity emitting lasers (VCSEL) (Simonis, abstract), use of ferrules, driver close to optical array (Simonis, Fig. 4), and optical elements disposed within the various interconnect configurations. It is obvious and well known to someone of ordinary skill in the art to use flexible printed circuit boards in optical modules. Miura in view of Simonis discloses the claimed invention except it fails to show a ferrule having a recess in it. It would have been obvious matter of design choice to someone of ordinary skill in the art to combine Miura in view of Simonis with a recess in

order to save space. Miura in view of Simonis further discloses a dam adapted to the mounting surface surrounding the array of optical elements (Miura, col. 10, lines 52-59, Fig. 24). It is obvious and well known to someone of ordinary skill in the art that the resin or epoxies used to encapsulate optical modules need to be insulators in order to prevent the flow of electricity through the module from dissipating through the encapsulated portion. Therefore, it is the position of the Office that the reference of Miura in view of Simonis reads upon the Applicants claimed limitations.

Claim 25

Miura discloses an optoelectronic connector comprising a mounting surface, an array of optoelectronic devices adapted to the mounting surface, the optoelectronic devices having at least a first end (abstract). Miura discloses an array of optical elements, the array of optical elements having at least a first end, the first end of the array of optical elements positioned relative to the first end of the array of optoelectronic devices in such a manner that one or more optical elements is optically aligned to one or more optoelectronic devices (Fig. 1, ref. 26, and 10). Miura further discloses a first non-opaque material dispensed between the first end of the array of optoelectronic devices and the first end of the array of optical elements, wherein the first nonopaque material contacts the first end of the array of optoelectronic devices and the first end of the array of optical elements (Fig. 1, ref. 26, 10 and 18, col. 5, lines 7-54).

Miura substantially teaches the claimed invention except that it fails to show an array of optical elements and an array of optoelectronic devices. Simonis shows that it is known to provide an array of optical elements and optoelectronic devices (pg. 3, paragraph 3) for an optical inter connect. It would have been obvious to someone of ordinary skill in the art to

combine the device of Miura with the array of optical elements and optoelectronic devices of Simonis for the purposes of providing high bandwidth and high-density optical computing.

Claims 26-49

The dependant claims are all obvious and well known to someone of ordinary skill in the art. The reference of Miura in view of Simonis discloses a non-opaque epoxy optical adhesives and a second adhesive surrounding the array of optical elements (Miura, col. 5, lines 7-41), it is obvious and well known in the art that UV optical adhesive is a form of epoxy resin. It is obvious and well known to someone of ordinary skill in the art that the resin or epoxies used to encapsulate optical modules need to be insulators in order to prevent the flow of electricity through the module from dissipating through the encapsulated portion yet enable to flow freely through the module to the optical array devices. Miura in view of Simonis further disclose photodetectors and printed circuit boards (Simonis, pg. 3, third paragraph), oxide vertical cavity emitting lasers (VCSEL) (Simonis, abstract), use of ferrules, driver close to optical array (Simonis, Fig. 4), and optical elements disposed within the various interconnect configurations. It is obvious and well known to someone of ordinary skill in the art to use flexible printed circuit boards in optical modules. Miura in view of Simonis discloses the claimed invention except it fails to show a ferrule having a recess in it. It would have been obvious matter of design choice to someone of ordinary skill in the art to combine Miura in view of Simonis with a recess in order to save space. Miura in view of Simonis further discloses a dam adapted to the mounting surface surrounding the array of optical elements (Miura, col. 10, lines 52-59, Fig. 24). It is obvious and well known to someone of ordinary skill in the art that the resin or epoxies used to encapsulate optical modules need to be insulators in order to prevent the flow of electricity

through the module from dissipating through the encapsulated portion. Therefore, it is the position of the Office that the reference of Miura in view of Simonis reads upon the Applicants claimed limitations.

Claim 50

Miura discloses an optoelectronic connector comprising a mounting surface, an array of optoelectronic devices adapted to the mounting surface, the optoelectronic devices having at least a first end (abstract). Miura discloses an array of optical elements, the array of optical elements having at least a first end, the first end of the array of optical elements positioned relative to the first end of the array of optoelectronic devices in such a manner that one or more optical elements is optically aligned to one or more optoelectronic devices (Fig. 1, ref. 26, and 10). Miura further discloses a solidifying material surrounding at least the array of optical elements, the solidifying material capable of mechanically stabilizing the array of optical elements to the mounting surface (Fig. 1, ref. 26, 10 and 18, col. 5, lines 7-54).

Miura substantially teaches the claimed invention except that it fails to show an array of optical elements and an array of optoelectronic devices. Simonis shows that it is known to provide an array of optical elements and optoelectronic devices (pg. 3, paragraph 3) for an optical inter connect. It would have been obvious to someone of ordinary skill in the art to combine the device of Miura with the array of optical elements and optoelectronic devices of Simonis for the purposes of providing high bandwidth and high-density optical computing.

Claims 51-70

The dependant claims are all obvious and well known to someone of ordinary skill in the art. The reference of Miura in view of Simonis discloses solidifying material capable of

providing moisture or electrical shielding. (Miura, col. 5, lines 7-41), it is obvious and well known in the art that a UV optical adhesive is a form of epoxy resin. It is obvious and well known to someone of ordinary skill in the art that the resin or epoxies used to encapsulate optical modules need to be attenuators and insulators in order to prevent the flow of electricity through the module from dissipating through the encapsulated portion yet enable to flow freely through the module to the optical array devices. Miura in view of Simonis further disclose photodetectors and printed circuit boards (Simonis, pg. 3, third paragraph), oxide vertical cavity emitting lasers (VCSEL) (Simonis, abstract), use of ferrules, driver close to optical array (Simonis, Fig. 4), and optical elements disposed within the various interconnect configurations. It is obvious and well known to someone of ordinary skill in the art to use flexible printed circuit boards in optical modules. Miura in view of Simonis discloses the claimed invention except it fails to show a ferrule having a recess in it. It would have been obvious matter of design choice to someone of ordinary skill in the art to combine Miura in view of Simonis with a recess in order to save space. Miura in view of Simonis further discloses a dam adapted to the mounting surface surrounding the array of optical elements (Miura, col. 10, lines 52-59, Fig. 24). Therefore, it is the position of the Office that the reference of Miura in view of Simonis reads upon the Applicants claimed limitations.

Claim 71

Miura discloses an optoelectronic connector comprising a mounting surface, an array of optoelectronic devices adapted to the mounting surface, the optoelectronic devices having at least a first end (abstract). Miura discloses an array of optical elements, the array of optical elements having at least a first end, the first end of the array of optical elements positioned

relative to the first end of the array of optoelectronic devices in such a manner that one or more optical elements is optically aligned to one or more optoelectronic devices (Fig. 1, ref. 26, and 10). Miura further discloses a gap formed between the first end of the array of optoelectronic devices and the first end of the array of optical elements (Fig. 1, ref. 26, 10 and 18, col. 5, lines 30-41).

Miura substantially teaches the claimed invention except that it fails to show an array of optical elements and an array of optoelectronic devices. Simonis shows that it is known to provide an array of optical elements and optoelectronic devices (pg. 3, paragraph 3) for an optical inter connect. It would have been obvious to someone of ordinary skill in the art to combine the device of Miura with the array of optical elements and optoelectronic devices of Simonis for the purposes of providing high bandwidth and high-density optical computing.

Claims 71-95

The dependant claims are all obvious and well known to someone of ordinary skill in the art. The reference of Miura in view of Simonis discloses solidifying material capable of providing moisture or electrical shielding. (Miura, col. 5, lines 7-41), it is obvious and well known in the art that a UV optical adhesive is a form of epoxy resin. It is obvious and well known to someone of ordinary skill in the art that the resin or epoxies used to encapsulate optical modules need to be insulators in order to prevent the flow of electricity through the module from dissipating through the encapsulated portion yet enable to flow freely through the module to the optical array devices. It is obvious and well known in the art that when aligning optical devices to any form of waveguide without physically connecting them, a gap will be created in order to maximize coupling efficiencies within the optical system. Miura in view of Simonis further

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disclose photodetectors and printed circuit boards (Simonis, pg. 3, third paragraph), oxide vertical cavity emitting lasers (VCSEL) (Simonis, abstract), use of ferrules, driver close to optical array (Simonis, Fig. 4), and optical elements disposed within the various interconnect configurations. It is obvious and well known to someone of ordinary skill in the art to use flexible printed circuit boards in optical modules. Miura in view of Simonis discloses the claimed invention except it fails to show a ferrule having a recess in it. It would have been obvious matter of design choice to someone of ordinary skill in the art to combine Miura in view of Simonis with a recess in order to save space. Miura in view of Simonis further discloses a dam adapted to the mounting surface surrounding the array of optical elements (Miura, col. 10, lines 52-59, Fig. 24). Therefore, it is the position of the Office that the reference of Miura in view of Simonis reads upon the Applicants claimed limitations.

Claim 118

Miura discloses an optoelectronic connector comprising a mounting surface, an array of optoelectronic devices adapted to the mounting surface, the optoelectronic devices having at least a first end (abstract). Miura discloses an array of optical elements, the array of optical elements having at least a first end, the first end of the array of optical elements positioned relative to the first end of the array of optoelectronic devices in such a manner that one or more optical elements is optically aligned to one or more optoelectronic devices (Fig. 1, ref. 26, and 10). Miura further discloses a spacer (sleeve) adapted to the mounting surface, a first end of the spacer proximate to the first end of the array of optical elements (Fig. 1, ref. 26, 10 and 18, col. 5, lines 7-54).

Miura substantially teaches the claimed invention except that it fails to show an array of optical elements and an array of optoelectronic devices. Simonis shows that it is known to provide an array of optical elements and optoelectronic devices (pg. 3, paragraph 3) for an optical inter connect. It would have been obvious to someone of ordinary skill in the art to combine the device of Miura with the array of optical elements and optoelectronic devices of Simonis for the purposes of providing high bandwidth and high-density optical computing.

Claims 119-144

The dependant claims are all obvious and well known to someone of ordinary skill in the art. The reference of Miura in view of Simonis discloses gel like epoxy optical adhesives and a second adhesive surrounding the array of optical elements and part of the spacer (Miura, col. 5, lines 7-41), it is obvious and well known in the art that a UV optical adhesive is a form of epoxy resin. It is obvious and well known to someone of ordinary skill in the art that the resin or epoxies used to encapsulate optical modules need to be insulators in order to prevent the flow of electricity through the module from dissipating through the encapsulated portion yet enable to flow freely through the module to the optical array devices. It is obvious and well known in the art that when aligning optical devices to any form of waveguide without physically connecting them, a gap will be created in order to maximize coupling efficiencies within the optical system. Miura in view of Simonis further disclose photodetectors and printed circuit boards (Simonis, pg. 3, third paragraph), oxide vertical cavity emitting lasers (VCSEL) (Simonis, abstract), use of ferrules, driver close to optical array (Simonis, Fig. 4), and optical elements disposed within the various interconnect configurations. It is obvious and well known to someone of ordinary skill in the art to use flexible printed circuit boards in optical modules. Miura in view of Simonis

discloses the claimed invention except it fails to show a ferrule having a recess in it. It would have been obvious matter of design choice to someone of ordinary skill in the art to combine Miura in view of Simonis with a recess in order to save space. Miura in view of Simonis further discloses a dam adapted to the mounting surface surrounding the array of optical elements (Miura, col. 10, lines 52-59, Fig. 24). Therefore, it is the position of the Office that the reference of Miura in view of Simonis reads upon the Applicants claimed limitations.

Response to Arguments

2. Applicant's arguments filed 09/16/2003 have been fully considered but they are not persuasive.
3. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).
4. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5

USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, Miura teaches of a simple means of encapsulating an optoelectronic element to insure secure and reliable operation of an optical module. Miura suggests that encapsulating an optical module i.e. 2-D array optoelectronic interconnect of Simonis, would ensure reliable operation and further enable for cost reduction (col. 1, lines 12-20).

5. Examiner respectfully disagrees with Applicants assertion that the presently claimed invention is not obvious to skilled persons in the art. For the following reasons:

In Applicants remarks on page 5 line 1, Applicants first reason for non-obviousness relies on the fact that there is no motivation to combine Miura and Simonis. Examiner would kindly like to point out to Applicant that on page 3 line 4 of the office action dated March 4, 2003, motivation for the combination of Miura and Simonis is provided.

Further, Applicants contend as the second and final reason for **non-obviousness** in lines 2-3 on page 5 of Remarks, the combination “**fails to disclose each and every element recited in the claimed invention**”. The Examiner would like to point out this is an argument of **anticipation** and not obviousness between the combination of the references. Ambiguity lies within the arguments given as to the reasoning that the combination of Miura and Simonis fails to disclose each and every recited element.

In the immediately following paragraph beginning with line 4 of page 5 in the Applicants Remarks, Applicants merely recite the structure of inventions of both Miura and Simonis, but give no substantial reasoning within the paragraph to support the statement that the two inventions would not be obvious to combine or to the fact that each and every element is not disclosed.

Turning to the next paragraph beginning at line 17 of page 5 in Applicants remarks, Applicants contend that due to differences in manufacturing techniques between single and multi-channel optical modules, it would not be obvious to combine the references of Miura and Simonis. Examiner would like to point to section 3 above to show suggestion given Miura to combine with Simonis. It is noted that even though Miura is geared towards a single channel module, Miura suggests the use of adhesives for cost reduction in “electrooptical modules” in general, which to someone of ordinary skill in the art at the time of the claimed invention could be a multi-channel optical module. Furthermore, Examiner would like to point out the Applicants argument in once again one of obviousness, and not anticipation as stated in lines 2-3 on page 5 of Applicants remarks.

In the last paragraph of page 6 beginning on line 16, the Applicants write “To reach a proper teaching of **method** through a combination of references, there must be stated an objective motivation to combine the teachings of the references, not a hindsight rationalization in light of the disclosure of the specification being examined.” Examiner agrees with Applicants, but Examiner would like to point out, the claims currently pending in the application are apparatuses and **not** methods. The Examiner has disclosed a proper combination teaching each of the structural limitations found within the claimed invention.

6. Regarding claim 71, Applicants believe that the combination of Miura and Simonis do not teach “a gap formed between a first end of the array of optoelectronic devices and the first end of the array of optical elements.” Applicants argue that on page 8, line 21 that “Miura discloses a method of abutting between the silicone resin and the ferrule. Examiners agrees with the statement by the Applicants, Examiner kindly points to lines 2-4 on page 8 of the office

action dated March 4, 2003 where the Examiner references Fig.1 elements 26, 10, & 18. Miura teaches a gap formed between the ferrule 26 and the optical element 10, Examiner notes that the gap is formed by the adhesive 18, but it is noted that Miura stills reads on the Applicants claimed limitation.

7. Regarding claim 118, Applicants believe that the combination of Miura and Simonis do not teach “a spacer adapted to the mounting surface, a first end of the spacer proximate to the first end of the array of optical elements.” Applicants argue that “Miura discloses a method of abutting between the silicon resin and the ferrule...however, never teaches or suggests a spacer between a ferrule and an optoelectronic device.” Examiner points to col. 5, lines 18-20 wherein the substrate 6 has a vertical portion 8 in abutment with the front end 22a of the sleeve 22 for determining positional relation to the optical element 10 and further to col. 5, lines 58-64 where Miura discloses a substrate (silicon) used for mounting the optical element 10 to a lead frame 4. Lastly, it is noted that in lines 28-29 on page 16 of Applicants specification, Applicants disclose the spacer “may be composed of silicon material”. It is the position of Examiner that the vertical portion 8 of the silicon substrate disclosed by Miura reads on the Applicants claimed spacer limitation.

8. With regards to Applicants request to provide support for both a mounting surface that includes a flexible printed surface together with the limitations listed in the independent claim and a UV optical adhesive together with the limitations listed in the independent claim, Examiner would like to point out that a 35 U.S.C. 102 rejection is not mandatory, and that a 35 U.S.C. 103 rejection is all that is needed. Examiner points to col. 2, lines 38-44 & col. 4, lines 4-

20 of the reference Kurashima et al. (USPN '665, cited in PTO-892 sent out 03/12/2003) which provides support for both a flexible printed circuit board and an UV curable adhesive.

9. With regards to Applicants request to provide support that a ferrule having a recess together with the limitations listed in the independent claim, Examiner would like to point out that a 35 U.S.C. 102 rejection is not mandatory, and that a 35 U.S.C. 103 rejection is all that is needed. Examiner points to Fig. 10A ref. 60 of the reference Kojima et al. (USPN '854, hereinafter Kojima), which is drawn to an Optical Module Packaged With Molded Resin and provides support for a ferrule with a recess in it. It would have been obvious to someone of ordinary skill in the art at the time of the claimed invention to place the recess at one end of the ferrule as opposed to the middle of the ferrule as taught by Kojima for the purposes of mounting the ferrule to the optical module.

10. At least for the above-stated reasons, Claims 2-24 are not patentable over Miura in view of Simonis. Based on similar grounds as Claims 2-24, Claims 26-49, 51-70, 72-95, and 119-144 are also not patentable over Miura in view of Simonis for the similar reasons stated above.

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

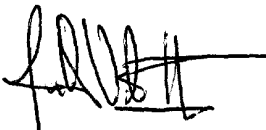
however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

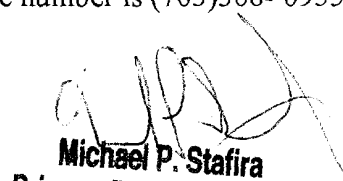
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan D Valentin II whose telephone number is (703) 605-4226. The examiner can normally be reached on M-Th., Every other Fr..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (703) 308-4881. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308- 0955.



Juan D Valentin II
Examiner 2877
JDV



Michael P. Stafira
Primary Patent Examiner
Technology Center 2800